

FORTRAN-80

**APPLE II
or
APPLE II PLUS**

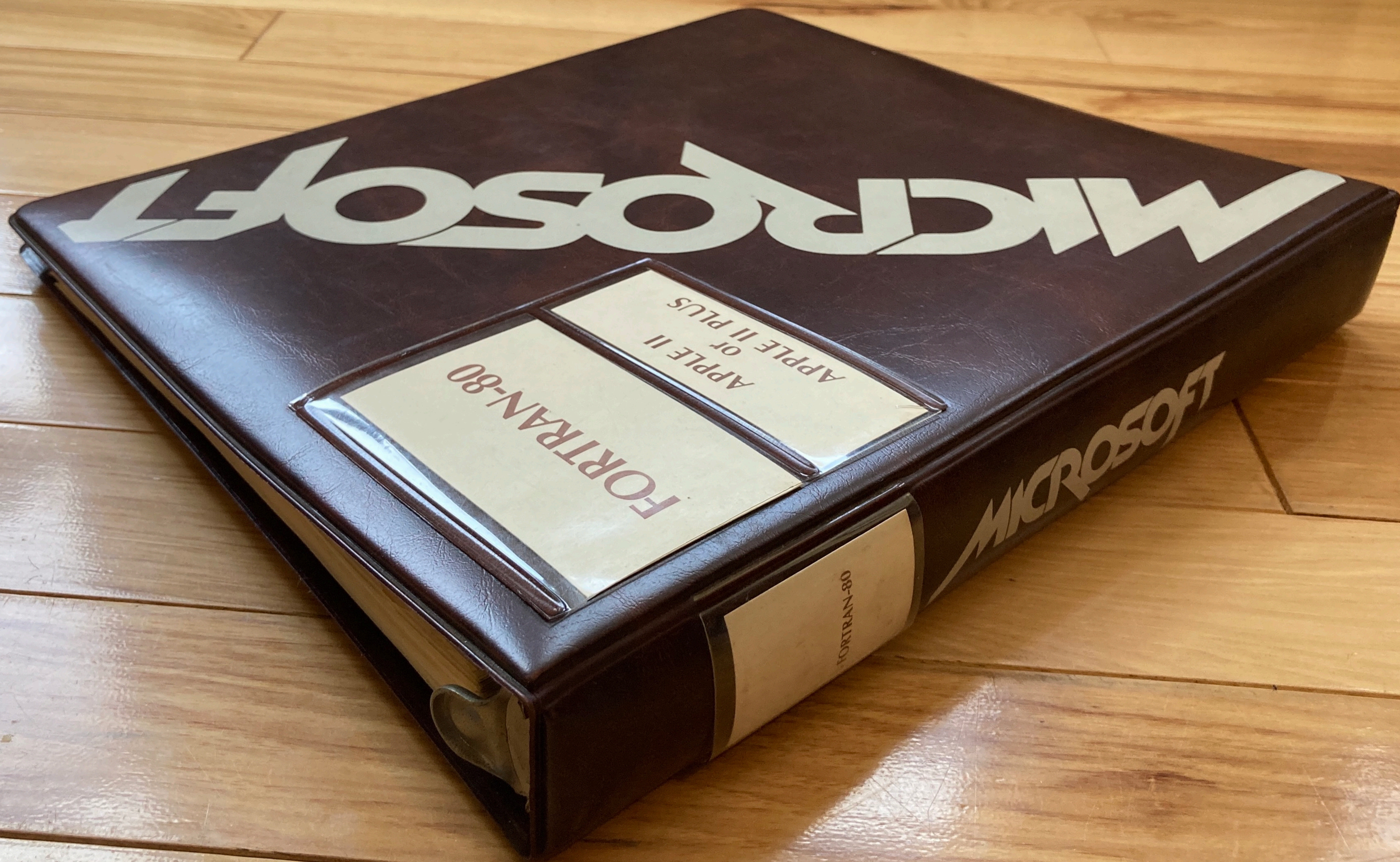
FORTRAN-80





PORTMAN-80
APPLE II
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FORTRAN-80

FORTRAN-80

APPLE II
or
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fortran-80 user's guide

Microsoft FORTRAN-80
for the Apple II Computer

Microsoft Consumer Products
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Bellevue, WA 98004

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for the Apple II

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For Apple II
13-Sector Disk
System Requirements: SoftCard,
48K, one disk drive
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Catalog No. 2205 Part No. 23H05

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For Apple II
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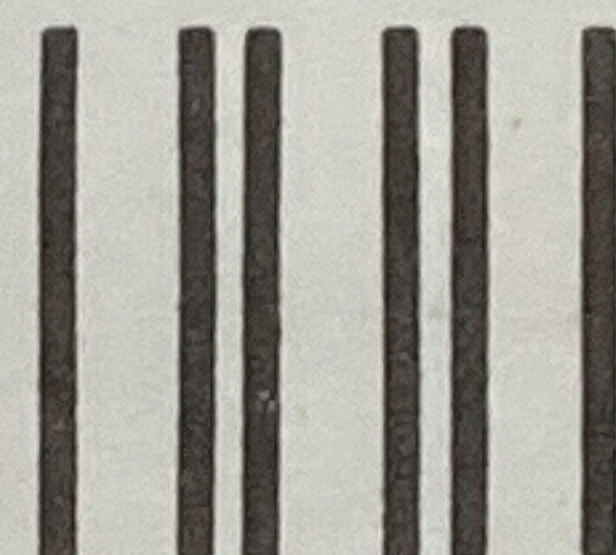
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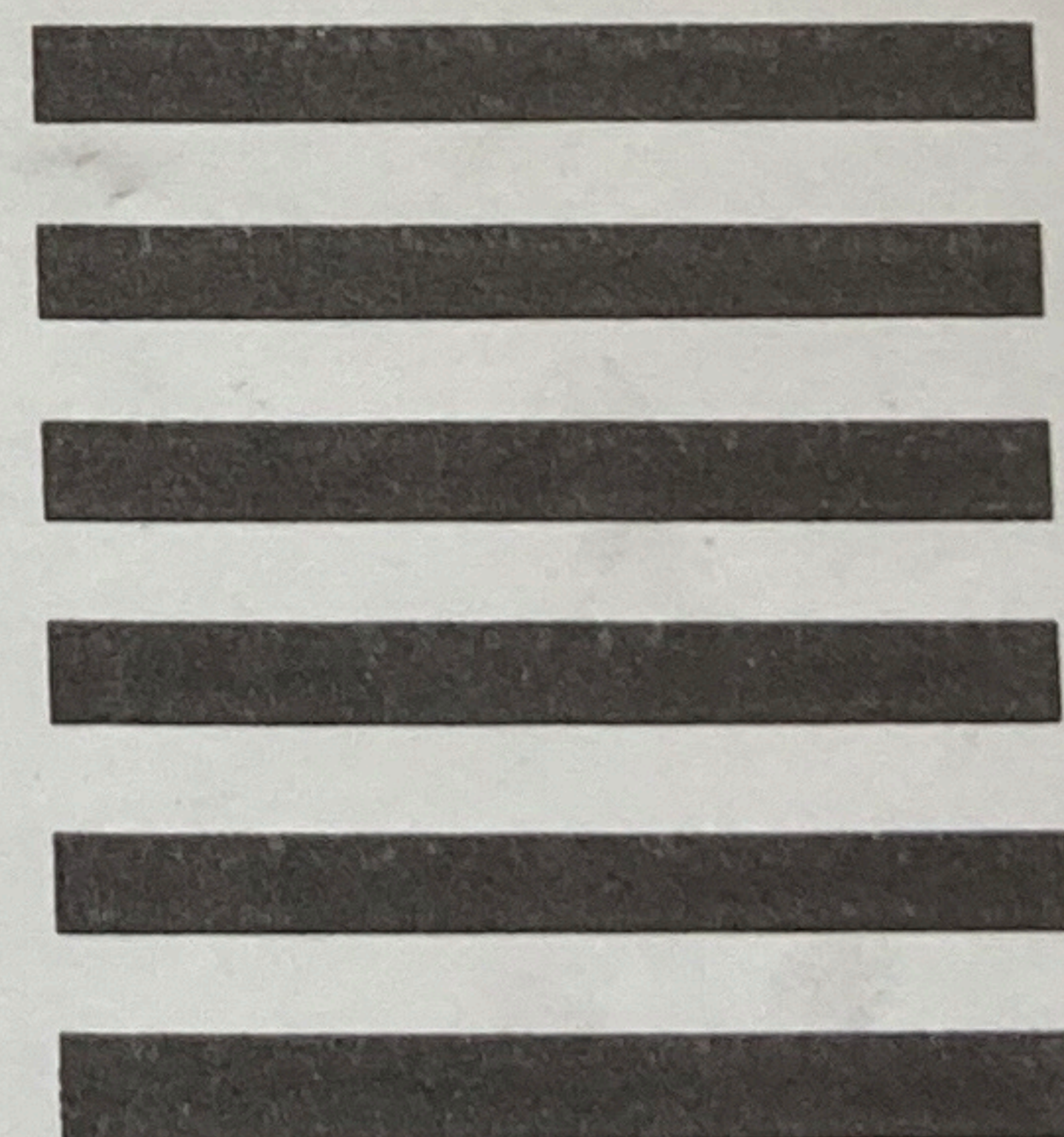
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OVERVIEW

FIGURE 1. DEMO.FOR
FORTRAN SOURCE PROGRAM

```

C *** ROD'S COLOR PATTERN ***
C
C BASED ON APPLE INTEGER BASIC
C PROGRAM ON PAGE 55 OF JAN 78
C APPLE ][ REFERENCE MANUAL
C
C PROGRAM DEMO
C
C BYTE W,I,J,K,L,M
C
C CALL GR(1,0)
10 DO 20 W = 3,50
DO 20 I = 1,19
DO 20 J = 0,19
K = I + J
CALL COLOR(J*3/(I+3)+I*W/12)
L = 40 - K
M = 40 - I
CALL PLOT(I,K)
CALL PLOT(K,I)
CALL PLOT(L,M)
CALL PLOT(M,L)
CALL PLOT(K,M)
CALL PLOT(M,K)
CALL PLOT(I,L)
CALL PLOT(L,I)
IF (INKEY(0)) GO TO 30
20 CONTINUE
30 CALL TEXT
STOP *BYE*
END

```

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CHAPTER 2

FORTRAN-80 COMPILER

If you followed the sample session, you are becoming familiar with the software in the FORTRAN-80 system. Now let's look specifically at the FORTRAN-80 compiler.

2.1 RUNNING THE COMPILER

When you put the FORTRAN system diskette in the drive and type

F80

at CP/M command level, you are invoking the FORTRAN-80 compiler.

The compiler prompts with an asterisk. To exit the compiler and return to CP/M, type control-C.

You may also type the compiler command on the same line as the invocation. This is called a "command line." Example:

F80 =DEMO

After executing a command line, the compiler automatically exits to the operating system.

The compiler takes a FORTRAN source program and compiles it to generate a relocatable object program that consists of a series of machine language instructions and calls to the FORTRAN library. If directed, the compiler also creates a list file consisting of your FORTRAN statements and the machine code generated from them. This list file, unlike the REL (relocatable object) program, can be listed and printed from CP/M command level.

9.4 FUNCTION SUBPROGRAMS

A program unit which begins with a FUNCTION statement is called a FUNCTION subprogram.

A FUNCTION statement has one of the following forms:

t FUNCTION f(a1,a2,...an)

or

FUNCTION f(a1,a2,...an)

where:

1. t is either INTEGER, REAL, DOUBLE PRECISION or LOGICAL or is empty as shown in the second form.
2. f is the name of the FUNCTION subprogram.
3. The ai are dummy arguments of which there must be at least one and which represent variable names, array names or dummy names of SUBROUTINE or other FUNCTION subprograms.

9.5 CONSTRUCTION OF FUNCTION SUBPROGRAMS

Construction of FUNCTION subprograms must comply with the following restrictions:

1. The FUNCTION statement must be the first statement of the program unit.
2. Within the FUNCTION subprogram, the FUNCTION name must appear at least once on the left side of the equality sign of an assignment statement or as an item in the input list of an input statement. This defines the value of the FUNCTION so that it may be returned to the calling program.

Additional values may be returned to the calling program through assignment of values to dummy arguments.

Example:

FUNCTION Z7(A,B,C)

·

·

·

Z7 = 5.*(A-B) + SQRT(C)

·

·

C REDEFINE ARGUMENT
B=B+Z7

·

·

RETURN

·

·

·

END

3. The names in the dummy argument list may not appear in EQUIVALENCE, COMMON or DATA statements in the FUNCTION subprogram.
4. If a dummy argument is an array name, then an array declarator must appear in the subprogram with dimensioning information consistent with that in the calling program.
5. A FUNCTION subprogram may contain any defined FORTRAN statements other than BLOCK DATA statements, SUBROUTINE statements, another FUNCTION statement or any statement which references either the FUNCTION being defined or another subprogram that references the FUNCTION being defined.
6. The logical termination of a FUNCTION subprogram is a RETURN statement and there must be at least one of them.
7. A FUNCTION subprogram must physically terminate with an END statement.

Microsoft Software Problem Report

Use this form to report errors or problems in: ☐ FORTRAN-80

☐ COBOL-80

☐ MACRO-80

☐ LINK-80

Release (or version) number: _____

Date _____

Report only one problem per form.

Describe your hardware and operating system: _____

Please supply a concise description of the problem and the circumstances surrounding its occurrence. If possible, reduce the problem to a simple test case. Otherwise, include all programs and data in machine readable form (preferably on a diskette). If a patch or interim solution is being used, please describe it.

This form may also be used to describe suggested enhancements to Microsoft software.

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